We claim:

1. A vibrational device for use with a papermaking machine having a wire, the vibrational device comprising:

at least one vibration-inducing mechanism;

a vibrational head coupled to the at least one vibration-inducing mechanism and movable to impart a vibrational force to the wire, the vibrational head having a support and a vibrational element coupled to the support and positionable adjacent the wire; and

at least one dampener coupled between the vibration-inducing mechanism and the vibrational head.

2. The vibrational device of claim 1, wherein the at least one dampener comprises a conduit containing fluid.

3. The vibrational device of claim 2, wherein fluid pressure in the conduit is adjustable.

4. The vibrational device of claim 1, wherein the at least one dampener is located between the vibrational element and the support of the vibrational head.

5. The vibrational device of claim 4, wherein the at least one dampener comprises a conduit containing fluid.

6. The vibrational device of claim 1, wherein the at least one dampener comprises elastomeric material.

7. The vibrational device of claim 1, wherein the vibrational element is slidably coupled to the support.

8. The vibrational device of claim 7, wherein the support includes at least one T-shaped member by which the vibrational element is coupled to the support.

9. The vibrational device of claim 1, wherein the vibrational element is coupled to first and second supports positioned end-to-end in a cross-machine direction of the papermaking machine, each support coupled to and vibrated by a respective vibration-inducing mechanism.

10. The vibrational device of claim 9, wherein a machine-direction width of the vibrational element is greater than a machine-direction width of each one of the first and second supports.

11. The vibrational device of claim 9, wherein the at least one dampener extends in the cross-machine direction along at least part of each of the first and second supports.

12. The vibrational device of claim 9, wherein:

the first and second support members have a first combined length in a cross-machine direction of the wire; and

the at least one dampener extends along at least a majority of the first combined length of the first and second support members.

13. The vibrational device of claim 9, wherein at least one of the vibration-inducing mechanisms is controllable independently of another of the vibration-inducing mechanisms to adjust vibrational forces between different supports.

14. The vibrational device of claim 1, further comprising a feedback control system adapted to adjust the frequency of the at least one vibration-inducing mechanism.

15. The vibrational device of claim 14, wherein:

the vibrational head includes at least two supports positioned end-to-end in a cross-machine direction; and

the feedback control system includes a controller and at least two accelerometers each coupled to a respective support of the at least two supports.

16. The vibrational device of claim 1, wherein the at least one vibration-inducing mechanism pneumatically powered.

17. The vibrational device of claim 1, wherein:

the vibrational head further includes a secondary support; and

the at least one dampener is coupled between the support and the secondary support.

18. The vibrational device of claim 17, wherein the support has at least one connector positioned for coupling the vibrational element to the support.

19. The vibrational device of claim 18, wherein the at least one connector establishes a sliding connection between the vibrational head and the support.

20. The vibrational device of claim 17, wherein at least one of the vibrational element and the secondary support includes a recess into which the at least one dampener is received.

21. The vibrational device of claim 20, wherein the at least one dampener is secured within the recess.

22. A method of forming a web, comprising:

discharging stock flow from a headbox onto a wire, the stock flow including water and fibers;

transferring a vibrational force produced by at least one vibration-inducing mechanism to the wire by contacting the wire with a vibrational head;

dampening the vibrational head by coupling at least one dampener between the vibrational head and the at least one vibration-inducing mechanism; and

draining at least some of the water from the stock flow to cause the fibers to form a web.

23. The method of claim 22, further comprising adjusting a pressure in the at least one dampener.

24. The method of claim 22, wherein the vibrational head includes a vibrational element and at least two support members aligned end-to-end in a cross-machine direction, each support member having at least one vibration-inducing mechanism coupled thereto; the method further comprising adjusting the at least one dampener until the phase of the vibrational force generated by the vibration-inducing mechanisms is substantially constant in a cross-machine direction of the wire.

25. The method of claim 22, wherein the vibrational head includes a vibrational element and at least two support members aligned end-to-end in a cross-machine direction, each support member having at least one vibration-inducing mechanism coupled thereto; the method further comprising adjusting the at least one dampener until the frequency of the vibrational force generated by the vibration-inducing mechanisms is substantially constant in a cross-machine direction of the wire.

26. The method of claim 22, and further comprising controlling a frequency of the vibrational force generated by the at least one vibration-inducing mechanism with a feedback control system, the feedback control system receiving signals from the vibrational head representative of at least one of frequency and amplitude of vibrational head movement.

27. A vibrational device for use with a papermaking machine having a wire, the vibrational device comprising:

first and second vibration-inducing mechanisms; and

a vibrational head including a vibrational element and first and second supports, the first and second supports coupled to and driven by the first and second vibration-inducing mechanisms, respectively, the vibrational element coupled to and driven by the first and second vibration-inducing mechanisms via the first and second supports to transmit vibrational force to the wire.

28. The vibrational device of claim 27, further comprising at least one dampener coupled adjacent at least one of the vibrational element and the first and second supports.

29. The vibrational device of claim 28, wherein the at least one dampener is a conduit containing fluid.

30. The vibrational device of claim 29, wherein fluid pressure in the conduit is adjustable.

31. The vibrational device of claim 27, wherein the vibrational element spans across a seam between the first and second supports.

32. The vibrational device of claim 31, wherein the vibrational element spans across at least a majority of each of the first and second supports.

33. The vibrational device of claim 28, wherein the at least one dampener comprises elastomeric material.

34. The vibrational device of claim 1, wherein the vibrational element is slidably coupled to the first and second supports.

35. The vibrational device of claim 34, wherein each of the first and second supports includes at least one T-shaped member by which the vibrational element is coupled to the first and second supports.

36. The vibrational device of claim 28, wherein:

the first and second supports extend a first combined length in the cross-machine direction; and

the at least one dampener extends at least a second length in the cross machine direction, the second length being substantially the same length as the first combined length.

37. The vibrational device of claim 27, wherein the first vibration-inducing mechanism is controllable independently of the second vibration-inducing mechanism to adjust vibrational forces between the first and second supports.

38. The vibrational device of claim 27, further comprising a feedback control system adapted to adjust the frequency of the first and second vibration-inducing mechanisms.

39. The vibrational device of claim 38, wherein:

the first and second supports are positioned end-to-end in a cross-machine direction; and

the feedback control system includes a controller and at least two accelerometers coupled to the first and second supports.

40. The vibrational device of claim 27, wherein the at least one vibration-inducing mechanism is pneumatically powered.

41. The vibrational device of claim 27, wherein at least one dampener is coupled between the vibrational element and connectors of the first and second supports.

42. The vibrational device of claim 27, further comprising a secondary support coupled to the vibrational head, wherein at least one dampener is coupled between the support and the secondary support.

43. The vibrational device of claim 42, wherein at least one of the vibrational element and the secondary support includes a female recess into which the at least one dampener is received.

44. The vibrational device of claim 43, wherein the at least one dampener is secured within the recess.

45. The vibrational device of claim 27, wherein a machine-direction width of the vibrational element is greater than a machine-direction width of each one of the first and second supports.